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ER 5-1-11

Regulation
No. ER 5-1-11

17 August 2001

Management
U. S. ARMY CORPS OF ENGINEERS BUSINESS PROCESS

1. Purpose. This regulation establishes philosophy, policy, and guidelines to accomplish all work performed by the U.S. Army Corps of Engineers (USACE).
2. Applicability. This regulation applies to all USACE activities and all its functional areas.
3. Distribution. Approved for public release, distribution is unlimited.
4. References.
 - a. AR 5-1, Army Management Philosophy
 - b. AR 11-2, Management Control
 - c. FM 22-100, Army Leadership
5. Definitions. Appendix A provides definitions for the purpose of assuring a common understanding of key and essential terms between all USACE personnel, especially project delivery team members, and others who read the doctrine in this regulation.
6. General.

a. First and foremost, USACE employees' overriding responsibility is to represent the public interests. As public servants, all USACE employees have taken an oath to represent the best interests of the United States and its citizens. Accordingly, all USACE employees, including project managers, must make decisions based on the best interests of the Nation, the Army and the public. Recognition of this preeminent responsibility is critical to properly balancing the many interests that USACE faces in executing various military, civil works, and Support for Others projects.

b. USACE operates as a single public corporate entity serving the Army and the Nation. All customers are entitled to the full depth and breadth of Corps resources worldwide. USACE seeks to operate with business efficiency to meet the nation's needs as efficiently and effectively as possible. To achieve this, people with the right skills and tools must work on the right job. PMs and other team members shall be chosen for their skills and abilities to successfully execute

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the project, without regard to their assigned functional or geographic locations within USACE. Virtual and matrix teams shall be used to align USACE efforts and focus on quality project delivery. All organizations must act in unison across boundaries to draw on combined strengths and leverage the resources of the public and private sectors to meet national needs. USACE shall make resource decisions based on what is best for the mission, the nation, and the public, understanding impacts to all customers. Project delivery and program execution across organizational boundaries must appear seamless to customers. Leaders facilitate smart use of resources, project-focused operation, technical competency, and innovation across the organization.

7. USACE Business Process. The fundamental USACE business process used to deliver quality projects and services, to include support services provided within USACE, is the Project Management Business Process (PMBP). The PMBP applies to planning, development, and management of programs as well as projects, and is used at all echelons of USACE.

a. **Central Tenet of PMBP**. The heart of the PMBP is project-focused teamwork. We draw on the diverse resources of the Corps worldwide to assemble strong multi-disciplined Project Delivery Teams (PDT), unlimited by geography or organizational boundaries, to best meet the customers' needs, and the national/public interests. This regulation empowers PDTs with the authority and responsibility for delivering quality products and services, in accordance with PMBP.

b. **PMBP Imperatives**. There are seven imperatives that govern the PMBP. It is the responsibility of senior leaders to ensure these principles are followed across USACE for all work.

USACE Business Process Imperatives
<i>1. One project, one team, one project manager</i>
<i>2. Plan for success and keep commitments</i>
<i>3. The PDT is responsible for project success</i>
<i>4. Measure quality with the goals and expectations in the PMP</i>
<i>5. Manage all work with the PMBP, using corporate automated information systems</i>
<i>6. Build effective communications into all activities and processes</i>
<i>7. Use best practices and seek continuous improvement</i>

(1) ***One project, one team, one PM***. Each project is placed in the hands of a PDT and a single PM for management and leadership of the projects its entire life cycle, even when more than one USACE district or activity is involved. The Deputy District Engineer for Program and Project Management (DPM) consults with other senior leaders and selects a PM based on the individual's abilities to best lead the specific project, without regard to assigned organizational element. Generally, the PM will reside at the geographic district, but can be elsewhere as needed to meet the project requirements. The PM and PDT are responsible and accountable for ensuring

the team takes effective, coordinated actions to deliver the completed project according to the PMP. The PM manages all project resources, information and commitments, and leads and facilitates the PDT towards effective project development and execution. The PDT shall consist of everyone necessary for successful development and execution of all phases of the project. The PDT will include the customer(s), the PM, technical experts within or outside the local USACE activity, specialists, consultants/contractors, stakeholders, representatives from other federal and state agencies, and vertical members from division and headquarters that are necessary to effectively develop and deliver the project. The customer is an integral part of the PDT. The customer's primary "door" to the Corps is the PM, who must seamlessly integrate USACE efforts to deliver the best possible solutions for the customer. The PM is the primary interface with the customer for the specific project. So that the organization speaks with one voice, the PM coordinates all matters relating to the project, and ensures that the customer's requirements are conveyed and understood. In performing such functions, the PMs must operate consistent with their responsibilities as a public servant (Federal official), as summarized in paragraph 6.a. PMs will encourage and facilitate team members in communicating directly with the customer organization on issues related to execution of their specialty area of the project. It is critical that the PDT member keep the PM and other PDT members informed of issues, customer concerns and circumstances for the project.

(2) ***Plan for success and keep commitments.*** Requirements for quality must be addressed during the planning phase, rather than waiting until the review or inspection stage. It is important to build trust with customers and coworkers by clarifying expectations, keeping commitments, and ensuring projects are delivered as promised. To meet these objectives, all work will be managed under a management plan.

(a) Project Management Plans.

1 A Project Management Plan (PMP) is a roadmap for quality project delivery. The PMP helps the PDT maintain a constant focus toward project delivery and the customers' needs, wants and expectations. As a federal agency, USACE represents the public interest and ensures the properly balancing the varied and possibly competing interests in delivering quality projects and defining project goals and expectations in the PMP. The PMP is an agreement between USACE and the customer that defines the customer's desired outcomes. To be an effective management and communication tool, the plan must be a living document that is updated as conditions change. The PM and PDT, to include the customer, will develop and maintain the PMP at a level of detail commensurate with the scope of the project. The PM will ensure the customer endorses all objectives in the PMP. The PMP will include customer expectations and consensus objectives, to include project-specific quality control procedures appropriate to the size, complexity, acquisition strategy, project delivery, and nature of each product. The PM will coordinate any changes to the project with the customer and PDT, and update the PMP as appropriate.

2 The content of the PMP is dictated by the five tasks key to the success of a project: obtaining agreement on project goals and expectations (particularly regarding scope, project quality and safety, costs, and schedule); developing a plan for acquiring and delivering a project

that meets customer expectations, objectives, and needs; establishing a good internal and external communication strategy; defining and controlling the scope of the project; and defining the resources necessary for project success. By addressing these tasks, the PMP establishes a general framework for execution. The PDT must address these five tasks in a manner that makes sense to the team and customer and best supports their endeavor to succeed.

(b) Program Management Plans

1 There are two general types of programs. One type of program is a collection of individual projects, typically for external customers. The second type of program is comprised of recurring services for external customers or internal support services. Programs comprised of projects that do not have individual plans are managed with a Program Management Plan (PgMP). A PgMP is used to allocate funds and resources and establish program goals, objectives, acquisition strategy, and priorities on an annual basis. Services comprising recurring activities such as routine regulatory activities, flood plain management, logistics management services, real estates services, or research and development services are addressed in a PgMP, but not necessarily exclusive of a PMP. A PgMP is optional if the projects within the program are each covered under individual management plans. A PgMP is a necessity when mission success requires synergy and integration between individual projects on a program. Templates of standard process, components, and checklists should be considered to accompany a PgMP for programs with projects of recurring services, when an individual PMP is impractical.

2 If a project is not covered under a PgMP for recurring services, a Project Management Plan (PMP) is required. A separate PMP is required for work intended to produce a specific expected outcome or solution to a customer problem or need. When an individual activity or project under a program is of such scope that it is no longer manageable under the PgMP, it shall be managed with a separate PMP for the activity or project.

(3) *The PDT is responsible for project success.* The PDT is responsible and accountable for delivering a quality project to the customer. The team is empowered and supported by senior organizational leaders to make project decisions within the bounds of the approved PMP. The senior leaders are responsible to ensure the team has the resources, tools, skills and experience needed to deliver a quality project. PMBP often requires a multi-disciplinary team of personnel to execute the project successfully. Though projects may include many distinct, separate phases, they must be approached from an integrated, life-cycle perspective, focused on meeting the project's goals, objectives, and expectations as defined in the PMP. The team will expand to include all necessary expertise on a specific issue, and will include a vertical aspect encompassing division and headquarters. The PM is responsible for ensuring that the necessary disciplines and perspectives are represented within the team.

(4) *Measure quality with the goals and expectations in the PMP.* USACE defines quality projects and services as those that comply with legal obligations, Administration policy, and meet or exceed the goals, objectives, and expectations defined in the PMP. The PDT shall work with customers to determine and provide what is expected, and must strive to deliver products and services that are in the public interest. The PDT shall measure its success against the defined

expectations documented in the PMP. The needs and expectations of customers and stakeholders shall be balanced, considering available resources and life-cycle requirements. Expectations of the beneficiaries and/or stakeholders of projects are considered when determining quality objectives. As stewards of the public trust, we must ensure compliance with legal obligations and Administration policy. USACE will not compromise professional standards. Requirements that exceed these minimum standards are negotiated with the customer based on the project's complexity, available resources, and the degree of risk the customer and USACE are willing to assume. Deviations from Corps of Engineers publications are authorized when requirements preclude compliance with this regulation. Such deviations require waiver approval by the applicable HQUSACE proponent. Such deviations require a full understanding of the basis of the requirement, including a determination of the basis for the deviation, and of the inherent risk resulting from the deviation.

(5) ***Manage all work with the PMBP, using corporate automated information systems.*** All work in USACE is considered project-related. Each person contributes to mission success, either directly as a PDT member or indirectly in providing support services to a PDT. The PMBP is used to manage products and services for customers within USACE, as well as projects and programs for external customers. Each person contributes to project success by meeting the requirements of his or her role, regardless of the person's functional area or echelon within the organization. Each person is responsible and accountable to the customer and the PDT for the timeliness and quality of his or her work. All employees affect our ability to succeed, even if they have no direct contact with the customer. USACE corporate automated information systems (AIS) provide the information necessary to manage projects and programs. All work is managed with the AIS, and their use facilitates PMBP. Developing, coordinating, and maintaining budgetary data and other information necessary to manage a project is the responsibility of the PDT under the leadership of the project manager (PM).

(6) ***Build effective communications into all activities and processes.*** USACE utilizes effective communication to interact internally as a team and externally with partners, stakeholders and customers. It is not possible to produce quality projects or maintain quality relationships without this type of communication. Communication is the starting point of the PMBP, and it is essential to foster the cooperation and focused understanding of requirements and expected outcomes, and the continuous improvement to the business processes that are so vital to continued success. Effective communication is critical to the meaningful exchange of ideas, desires, requirements and plans. In order to fully understand the needs and expectations of customers, partners and stakeholders, USACE must practice effective communications techniques, with emphasis on listening. Better listening leads to better understanding and better service. Effective and credible communications is basic to a learning organization, and it must be iterative rather than after the fact. It must be applied from project initiation through project completion.

(7) ***Use best practices and seek continuous improvement.*** The USACE PMBP philosophy is to do the right things, the right way, for the right reasons, and to constantly strive for improvement. Evaluating project performance produces opportunities to further improve business processes, in terms of execution, productivity, cost effectiveness, streamlined processes,

timeliness, quality, and customer service. Each echelon of the organization shall have a quality system that is focused on continual quality improvements. Quality is managed through the Plan-Do-Check-Act cycle, for project execution, program management, and business processes. A detailed description of the Plan-Do-Check-Act cycle is included at Appendix B. USACE employs a "best business practices" system to standardize common procedures, simplify working across organizational boundaries, and take corporate advantage of lessons learned and new best practices.

8. Roles and Responsibilities. HQUSACE, Major Subordinate Commands (MSCs), centers, laboratories, and districts all have direct responsibility for quality and process improvement. All echelons of USACE work together to ensure and enhance the quality of our projects and services. The goal is to create an environment that promotes communication, respect, trust and cooperation. The organization's processes and resources are aligned to support quality objectives. To execute projects successfully, all echelons employ quality systems, including procedures for quality control of in-house products and services and quality assurance of contracted projects.

a. HQUSACE communicates philosophy and strategic vision through policy to achieve mission success. Policies are flexible to allow subordinate entities to tailor their services to support the Army and the Nation on a project-by-project basis. To help ensure that policies are practical and helpful, HQUSACE employs vertical teaming to address policy issues. HQUSACE continually assesses and improves policies and guidance and periodically reviews implementation of the PMBP to evaluate effectiveness. HQUSACE interprets policies and other USACE guidance and provides clarifications to MSCs, districts, labs and centers when requested. HQUSACE evaluates and facilitates integration of quality systems among MSCs and Centers. In addition, HQUSACE interacts with national customers, other agencies and private industry regarding programmatic issues.

b. MSCs use the PMBP to facilitate effective and efficient project-focused operation, technical competency, business efficiency, and innovation across their geographical region. MSCs look for the root cause of impediments to district excellence, and work to remove encumbrances. MSCs facilitate sharing process improvements, lessons learned, and best business practices among districts and promote consistency across USACE. MSCs work together to ensure that customers who cross MSC boundaries receive seamless service. MSCs provide comments to HQUSACE for necessary improvements and modifications to policy guidance documents. The MSC senior leaders provide integrating assistance to the division commander and lead the regional business center. MSCs perform quality assurance of their subordinate districts' quality process through periodic evaluations using an integrated approach consistent with the PMBP. MSCs perform quality assurance on the information contained in the corporate AIS for projects and programs within their regions.

c. Districts and centers use the PMBP to deliver projects to customers. Each activity will document its quality policies, procedures, and responsibilities in a Quality Management Plan (QMP). The QMP aligns the policies and operational procedures of the entire organization to meet the quality requirements of this regulation. The QMP details the structure and framework

of procedures and activities necessary to satisfy the mission, establishes roles and responsibilities, and assigns accountability for quality. All employees shall read the QMP and understand their roles in the quality framework. Quality objectives for individual projects are documented in the project-specific PMP.

d. The Commander is ultimately responsible for all that happens or fails to happen in the organization. To ensure success, Commanders empower their workforces to operate within the framework of PMBP in executing the mission. Commanders ensure that each echelon of the organization is aligned with the corporate strategic vision. The Commander is the leader of the corporate team, which sets the strategic direction for the organization. The Commander appoints the members of the corporate team and ensures that they maintain and communicate the strategic focus.

e. The corporate team creates the conditions necessary for success through actions and behavior consistent with the PMBP. The corporate team strives to enhance capabilities, improve the organization, and facilitate communications. The corporate team builds and maintains an environment that encourages excellence and continuous improvement. The corporate team's focus is the long-term future of the organization (two or more years out).

f. The DPM has programmatic oversight over all work. The DPM is the Commander's deputy and is responsible to the Commander for effective program and project management. The DPM is responsible for the vertical and horizontal integration of products to produce the projects and manage the programs in accordance with PMBP. The DPM provides continuity of corporate leadership in developing and assessing mission and work requirements and in developing corporate programs, plans, goals, and objectives. All work is assembled under the DPM's oversight so that priority decisions can be made corporately.

g. Senior leaders work at the operations level of the organization, with a focus on executing the current year's mission and planning for the next year. They work as a team to provide adequate resources and delegate authority commensurate with responsibilities to PMs and PDT members to enable project success. They also provide adequate resources and delegate authority commensurate with responsibilities to supervisors to allow for establishment and maintenance of a quality workforce. Senior leadership ensures that the quality management processes are developed, maintained, and followed. Senior leaders evaluate performance and facilitate improvements through application of these principles. They validate audit findings, communicate them to team members, and direct implementation of corrective actions.

h. Supervisors at all echelons of the organization lead their staffs in implementing the PMBP and in achieving professional excellence and continuous improvement. Supervisors at all echelons of the organization are responsible for the competency of their staff. Supervisors' duties include staffing, training, coaching and mentoring necessary to maintain a quality workforce. They work as a management team to assign work, balance workload and resolve resource conflicts on an ongoing basis. All USACE activities are encouraged to establish a middle management team, to take the load of daily resourcing issues off the corporate team, and fully engage middle management in supporting PDTs. Supervisors actively coach and mentor

PDT members and facilitate process improvements through the life cycle of projects. Supervisors maintain a high level of professional expertise, and facilitate access to subject matter experts. Supervisors work with their subordinates to ensure a thorough understanding of USACE policies and procedures.

i. The PM and the PDT are responsible and accountable for delivering quality results. The PM provides leadership and facilitation to the PDT; a multi-disciplined project team with responsibility for assuring that the project stays focused, first and foremost on the public interest, and on the customer's needs and expectations and that all work is integrated and done in accordance with a PMP and approved business and quality management processes. The team focuses on the quality project delivery, with heavy reliance on partnering and relationship development to achieve better performance. The PM assures customer involvement throughout the process and ensures mutual understanding of the customer's role in project success. The PM's relationship with the customer is pivotal to achieving project success. The PM's active role as consultant is essential to ensure that the customer's quality objectives are clearly articulated and that the customer understands the essential professional standards, laws, and codes, as well as public trust issues, that must be incorporated into the project. PMs employ the expertise of their teams to determine the procedures necessary to achieve the target level of quality. The PM and the PDT work with the customer early in the project scoping process to determine what the customer needs, and to refine those requirements in light of safety, fiscal, schedule, legal, and other constraints. Individual PDT members are responsible and accountable for the quality of their own work, for keeping the commitments for completion of their portion of the project as documented in the PMP, and for fiscal stewardship.

j. Program managers integrate program information and facilitate management. Program managers and PMT members keep higher echelons of the customer's organization updated on all work USACE is performing on their behalf, and assist customers in accessing USACE resources across organizational boundaries. Program managers are responsible for making accurate program projections necessary to support workload analysis at the local, regional and national level.

9. Management Control.

a. Management controls, like quality controls, are the responsibility of the leadership at all levels of USACE; from the District Commander, up to the MSC Commander, through to the Headquarters directorates and the Commander. The commanders are responsible for ensuring that all management weaknesses are found and corrected. No upward reporting is required for the corrective action process. If a management weakness requires the awareness of the next higher level of management, it is a material weakness. Material weaknesses discovered are reported through the chain of command. Reports of material weakness must specify corrective actions taken or planned. The highest echelon receiving the report will evaluate the corrective actions, provide assistance, if needed, and track progress.

b. All echelons are to lead and support efforts to collaborate, measure, manage, and improve the PMBP and projects in accordance with AR 5-1, AR 11-2, and FM 22-100. Command

Management Reviews, performance improvement processes and standards at regional and national levels will be used to review, validate, and sustain the best PMBP for project delivery.

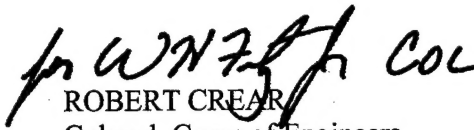
c. Headquarters, in concert with field offices, will develop and promulgate guidance media with context and examples of the precepts, and representations for a better understanding, implementation, and learning culture of the USACE Business Process.

FOR THE COMMANDER:

2 Appendices

APP A - Definitions

APP B - Plan-Do-Check-Act Cycle


ROBERT CREAR
Colonel, Corps of Engineers
Chief of Staff

APPENDIX A

DEFINITIONS

Automated Information Systems: A combination of computer hardware and software, telecommunications information technology, personnel, and other resources that collect, record, process, store, communicate, retrieve, and display information.

Corrective Action: Action taken to eliminate the causes of an existing nonconformity, defect, or other undesirable situation in order to prevent recurrence.

Customer: Customer as used in this regulation may be a number of people/organizations to include partners and stakeholders. In general, the customer is any individual or organization for which USACE delivers projects or services to meet specific needs. The intent of the use of the term is not to define a specific group of individuals or organizations, but rather to convey a corporate orientation of public service modeled after private industry's "customer service" model. The true USACE customer is the American public.

Deputy District Engineer for Program and Project Management (DPM): The civilian deputy to the District Commander. DPM as used in this regulation includes Center positions such as Deputy for Programs and Technical Management and Deputy for Programs and Project Management/Project Delivery Team.

Echelons: Levels in the organizational hierarchy—district/lab/center, the MSC and HQs.

Empowerment: Having authority to exercise judgment and take action, with the responsibility for resultant positive or negative consequences.

Functional Organization: Organization structure in which staff are grouped by technical specialty.

Mentoring: Guiding and assisting in development of individual and group skills to enhance performance, by freely giving the benefits of one's knowledge and experience to others.

Matrix Organization: An organizational structure in which individuals share a responsibility within their organization and as responsible members assigned to teams.

Matrix Team: Group of people working across organization boundaries for a common purpose.

Program: A group of projects or recurring services that may be categorized by funding source, requirements defined in the program management plan, or other common criteria for which resources are allocated and collectively managed.

Program Management: Component of the PMBP undertaken by all USACE echelons to manage programs. It consists of the development, justification, management, defense and execution of programs within available resources, in accordance with applicable laws, policies, and regulations, and includes accountability and performance measurements. Under program

management, programs, projects and other commitments are aggregated for oversight and direction by the organization's senior leadership. Program management takes project management to a greater level of interdependence and broadens the corporate perspectives and responsibilities.

Project: Any work intended to produce a specific expected outcome. A project has a defined scope, quality objectives, schedule, and cost. Internal services are discrete projects when they are non-recurring or of special significance.

Project Management: The application of knowledge, skills, tools, and techniques to project activities in order to meet or exceed defined expectations.

Project Management Business Process (PMBP): The fundamental USACE business process used to deliver quality projects. It reflects the USACE corporate commitment to provide "customer service" that is inclusive, seamless, flexible, effective, and efficient. It embodies communication, leadership, systematic and coordinated management, teamwork, partnering, effective balancing of competing demands, and primary accountability for the life cycle of a project.

Project Management Plan (PMP) (PgMP for Programs): A living document used to define expected outcomes and guide project (or program) execution and control. Primary uses of the PMP are to facilitate communication among participants, assign responsibilities, define assumptions, and document decisions. Establishes baseline plans for scope, cost, schedule, safety, and quality objectives against which performance can be measured, and to adjust these plans as actual performance dictates. PMP is developed by the project delivery team (PDT).

Quality: The totality of features and characteristics of a product or service that bear on its ability to meet the stated or implied needs and expectations of the project. Quality expectations need to be negotiated among the PDT members (which includes the customer) and are set in the PMP.

Quality Assurance (QA): An integrated system of management activities involving planning, implementation, assessment, reporting, and quality improvement to ensure that a process, item, or service is of the type and quality needed to meet project requirements defined in the PMP.

Quality Control (QC): The overall system of technical activities that measures the attributes and performance of a process, item, or service against defined standards to verify that they meet the stated requirements established in the PMP; operational techniques and activities that are used to fulfill requirements for quality.

Quality Management: Processes required to ensure the project will satisfy the needs and objectives for which it was undertaken, consisting of quality planning, quality assurance, quality control, and quality improvement.

Quality Management Plan: A formal document describing in comprehensive detail the necessary QA, QC, and other technical activities that must be implemented to ensure that the results of the work performed satisfy the stated performance criteria.

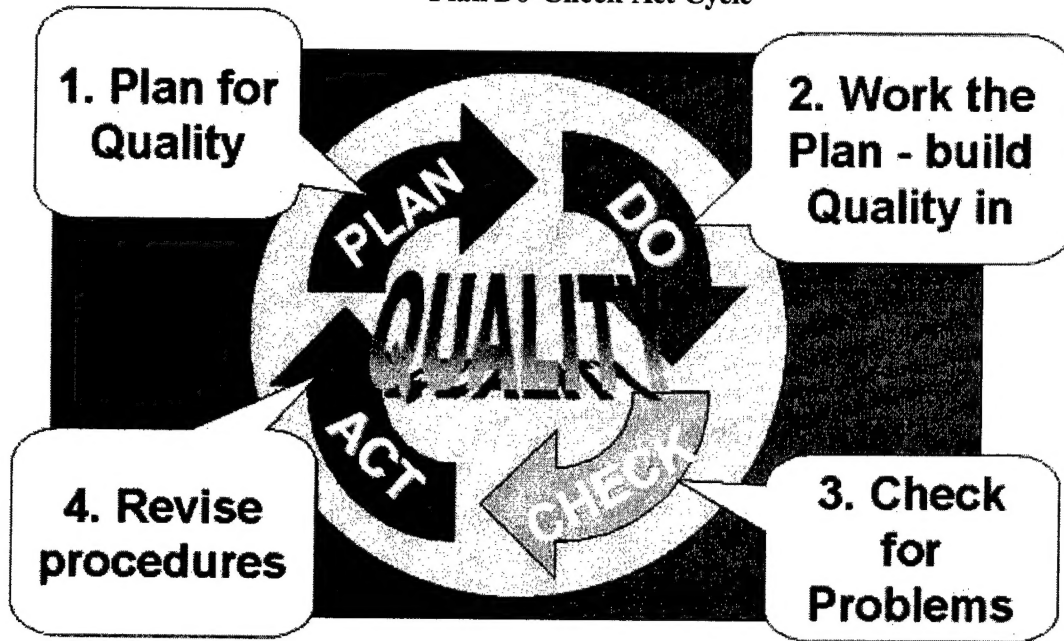
Quality System: A structured and documented management system describing the policies, objectives, principles, organizational authority, responsibilities, accountability, and implementation plan of an organization for ensuring quality in its work processes, products (items), and services. The quality system provides the framework for planning, implementing, and assessing work performed by the organization and for carrying out required QA and QC.

Stakeholders: Individuals and organizations who are involved in or may be affected by the project.

Virtual Team: Team working across geographic or organizational boundaries without physical co-location.

APPENDIX B

Plan-Do-Check-Act Cycle



1. **Plan:** We plan for and build quality into our work at each step in the process. We use a systematic planning process to identify the customer's quality goals; develop an effective plan and processes to achieve those goals, and measure our attainment of the quality objectives. We help our customers to express their desired outcomes in objective, quantitative terms. We communicate with our customers to ensure mutual understanding of standards and processes. It is essential that the project team, which includes the customer, understand the costs and benefits of selected quality standards and the processes to be used to achieve mutual objectives. We identify appropriate standards and determine how to achieve them. We consider the risk factors and complexity of each project, and adapt processes to provide the requisite level of quality. We consult, advise, and reach consensus with the customer before we do work. We use value engineering when it serves to increase the quality of our projects. The product of the planning phase is the project management plan (PMP).

2. **Do:** We then do the work according to approved PMPs and documented procedures. Our procedures are developed and documented with sufficient detail to ensure that actions are performed correctly and completely each time. Project and program execution is a dynamic process. The team must communicate and adapt to changing conditions and modify project plans to ensure project objectives are met. Quality management consists of executing a well-conceived and continually updated PMP.

3. **Check:** We perform sufficient independent technical review, management oversight, and verification to ensure that we meet the quality objectives documented in the PMP. Team members periodically check performance against the plan and verify sufficiency of the plan and

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actual performance to meet or exceed agreed-on objectives. After action reviews are conducted to facilitate sharing of lessons learned. Findings are shared with the project teams and other personnel to facilitate continuous improvement.

4. **Act:** We take specific corrective actions to remove the systemic cause of any non-conformance, deficiency, or other unwanted effect. We improve quality through systematic analysis and refinement of work processes. The process of continuous quality improvement leads to the refinement of the overall quality system. Quality improvements include appropriate revisions to quality management plans, alteration of procedures, and adjustments to resource allocations.